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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE 371st MEETING

Held at Headquarters, New York,
on Thursday, 18 June 1992, at 3 p.m.

Chairman: Mr. MUNTEANU (Romania)
(Vice-Chairman)

later, Mr. HOHENFELLNER (Austria)
(Chairman)

- Organization of work
- Ways and means of maintaining outer space for peaceful purposes (continued)
- Report of the Scientific and Technical Subcommittee on the work of its twenty-ninth session (A/AC.105/513)
- Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

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In the absence of the Chairman, Mr. Munteanu (Romania), Vice-Chairman, took the Chair.

The meeting was called to order at 3.15 p.m.

ORGANIZATION OF WORK

The CHAIRMAN: This afternoon the Committee will end its consideration of agenda item 6, "Ways and means of maintaining outer space for peaceful purposes". As the Committee was informed this morning, it is the Chair's intention to begin this afternoon consideration of agenda item 7, "Report of the Scientific and Technical Subcommittee on the work of its twenty-ninth session", and agenda item 9, "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space", as soon as we have exhausted the list of speakers on agenda item 6. As has been the Committee's practice, agenda items 7 and 9 will be considered jointly.

WAYS AND MEANS OF MAINTAINING OUTER SPACE FOR PEACEFUL PURPOSES (continued)

Mrs. FLORES (Uruguay) (interpretation from Spanish): As this is the first time my delegation has spoken at this session, I wish to congratulate the Chairman and the other officers of the Committee on their election. We should also like to thank the organizers of the panel discussion in commemoration of International Space Year for arranging such an interesting event.

My delegation has a few points to make on this agenda item. As previous speakers have correctly observed, the changes in the world scene have been so great that they have affected it. The latest example, which has already been mentioned, is the recently signed arms reduction agreement between the United States and Russia. However, maintaining outer space for peaceful purposes goes beyond arms reduction and control, including transparency and openness of information. In our view, the crucial element is cooperation.

(Mrs. Flores, Uruguay)

The principle of cooperation, one of the fundamental principles of the United Nations Charter and the basis of space corpus juris, is increasingly important.

Therefore, my delegation considers that, with regard to outer space, cooperation attains a special dimension. Since outer space is the common heritage of mankind, it must be used and explored bearing in mind not only today's generations but also future generations. In this respect, it is essential as soon as possible to give practical effect to this principle. The major difficulty may lie in answering the question: "What is the most rational and equitable way of making sure that the international community as a whole has access to the benefits deriving from space?"

We should refer to, inter alia, General Assembly 46/45 of 9 December 1991, which supplements Article I of the outer space Treaty by saying that the use and exploration of space should be for the benefit of all countries, particularly taking into account the needs of the developing countries in this regard.

(Mrs. Flores, Uruguay)

There can be many solutions. However, we must bear in mind that in other spheres that have been declared the common heritage of mankind arrangements were made to set up a body with specific functions.

Mr. GORBULIN (Ukraine)(interpretation from Russian): The very promising prospects for broad international cooperation in the exploration and utilization of outer space that are now opening up to mankind as a result of the end of the cold war do not yet mean, unfortunately, that the possible use of outer space for military purposes has become a thing of the past. In that regard the delegation of Ukraine is firmly convinced that the minds of men can and must find new ways to prevent the introduction of any type of weapon into outer space and impose a comprehensive ban on the use of force in outer space and on force directed from outer space towards Earth.

Dedicated as we are to the principle of the use of outer space solely for peaceful purposes, our State will be structuring its activities in this area in strict conformity with existing international legal norms, even though it is obvious even today that the existing legal regime for outer space requires further substantive work. This issue can be resolved only through the joint efforts of all members of the international community working on both a bilateral and a multilateral basis.

I should like to take advantage of this opportunity to reaffirm the fact that Ukraine has recently adhered to the Minsk Agreement among the countries of the Commonwealth of Independent States (CIS) of 30 December 1991, which deals with joint activities in the exploration and utilization of outer space. In this connection I would draw the Committee's attention to document A/AC.105/C.1/L.179, which contains the text of that Agreement.

As the representative of the Russian Federation, Mr. Mayorski, has stated, the space infrastructure of the former USSR was for the most part

(Mr. Gorbulin, Ukraine)

focused on military objectives. That is also true of the space infrastructure inherited by Ukraine, which, like those of the Russian Federation and the other former Soviet Republics, is a successor to that of the USSR.

At the present time Ukraine is drawing up its own space programme. In that process, an active role is being played by the National Space Agency, the Ministry of Defence of Ukraine, the Ministry of Machine Building and the Ukrainian Academy of Sciences. After expert governmental and public assessments, the programme will be submitted to the Ukraine Parliament for confirmation. Openness and glasnost in the discussion of this question will, we feel, be an earnest of the programme's exclusively peaceful purpose.

We are aware that the conversion of our rocket and space programme is in practice an extremely complex undertaking. Nevertheless, that is the policy we have adopted, and we intend to adhere to it. We have firm plans to use the strategic missile complexes SS-18 and SS-24, which will be withdrawn from strategic use as offensive weapons and adapted to peaceful purposes. For example, the delivery vehicle that forms the basis of the SS-18 complex is capable of launching spacecraft of up to four tons into Earth orbit. The implementation of this and other projects affords opportunities for broad international cooperation in various fields, including those of a commercial nature. Indeed, the commercialization of space activities is one of the major elements in the creation of Ukraine's national space programme, for, as the old saying goes, "Where there is trade, there is no war."

We are also looking for other ways to transform our space infrastructure to peaceful uses, and we are prepared to enter into broad-based international cooperation in this regard.

Mr. HODGKINS (United States of America): My delegation would like to make a few remarks on the important subject covered by item 6 of our agenda, "Ways and means of maintaining outer space for peaceful purposes". At this session we have already heard differing views on where opportunities for progress may lie.

We do not agree with the view that pursuing disarmament questions in the Committee on the Peaceful Uses of Outer Space would necessarily be a productive path to follow. We must remain cognizant of the well-established division of labour between the Committee's work and that of the Conference on Disarmament, a division of labour which, of course, dates from General Assembly resolution 1348 (XIII), the so-called 20-Power resolution, which first established the Committee's terms of reference on an ad hoc basis in 1958.

In our view, there are tangible opportunities at this session to enhance international cooperation in keeping with the Committee's responsibilities as the only standing committee of the General Assembly with an exclusive mandate for cooperation in the peaceful uses of outer space. We have already seen some notable indications of this potential in the 1992 work of the two Subcommittees, and particularly in the case of the Scientific and Technical Subcommittee, where productive discussions explored a number of important issues. Perhaps the most promising of those discussions concerned activities for the International Space Year. These kinds of discussions, together with the very useful scientific presentations recorded in the report of the Secretariat (A/AC.105/516), reinforce our view that the Committee has indeed been on the right track in recent years in seeking to strengthen the scientific and technical underpinnings of its business.

(Mr. Hodgkins, United States)

Another indication of the success of this effort is the growing relevance of the Committee's work to the international community more generally, as reflected, in part, by the steady increase over the past few years in the number of other intergovernmental organizations, including non-governmental organizations, that seek participation in the Committee's work.

Another promising sign for the future is the potential for interregional cooperation. The other day we listened very carefully to the announcement made by the representative of Chile concerning his Government's decision to act as host to the second Space Conference of the Americas. We welcome this development.

The United States participated actively in the first Conference held in Costa Rica in 1990, and we were impressed with the results. The Conference in Chile could certainly mark an important advancement in regional cooperation, an area that the Committee has been advocating for the past decade, beginning with UNISPACE 82. I suggest we assess carefully how to lend appropriate support and encouragement to this effort. In that regard, we were pleased to learn that the Office of Outer Space Affairs will be assisting the Government of Chile in planning the Conference.

(Mr. Hodgkins,
United States)

Over the years, my delegation and others have put forward detailed proposals for improving the organization of work in the Committee and its Subcommittees. Indeed, the Committee has concluded that strengthening international cooperation in the peaceful exploration and use of outer space implies the need for the Committee itself to improve, whenever necessary, the methods and forms of its work. We take this injunction seriously, and that is why my delegation welcomed General Assembly resolution 46/190, which requested all subsidiary bodies to undertake informal consultations on a regular basis for the purpose of improving the utilization of their conference services and to report the results of these consultations to the Chairman of the Committee on Conferences. My delegation, therefore, requests that during this session such consultations take place among interested delegations.

Finally, I should like to join my colleague from the Russian Federation in advising the Committee that on June 17 Presidents Bush and Yeltsin signed a new agreement on space cooperation. Let me summarize briefly the more important aspects of that text.

It provides a broad framework for NASA and the Russian Space Agency to map out new projects in a full range of fields: space science, space exploration, space applications and the use of space technology. Cooperation under this agreement may include human and robotic space-flight projects, ground-based operations and experiments, and other important activities, such as monitoring the global environment from space, Mir Space Station and Space Shuttle missions involving the participation of United States astronauts and Russian cosmonauts, safety of space-flight activities, space biology and medicine, and the exploration of Mars.

In addition, pursuant to the agreement, the two Governments will give

(Mr. Hodgkins,
United States)

consideration to the following: flights of Russian cosmonauts aboard a Space Shuttle mission and United States astronauts aboard the Mir Space Station in 1993; and a rendezvous docking mission between the Mir and the Space Shuttle in 1994 or 1995.

Finally, an important part of the agreement involves annual sub-Cabinet consultations, led at the Under-Secretary of State. Deputy Foreign Minister level, a new mechanism for high-level government review of the bilateral civil space relationship between the two countries.

Mr. HERNANDEZ BASAVE (Mexico) (interpretation from Spanish): With reference to the priority item on our agenda, the Mexican delegation wishes to say how much it welcomes the agreement announced yesterday by Presidents Yeltsin and Bush on a drastic reduction in the nuclear arsenals of the United States and the Russian Federation. The short time it took to reach this agreement - five months - is proof of the growing conviction that nuclear weapons must disappear completely from the face of the Earth. Also, it shows that, with political will, it is possible to make progress on the complex problem of disarmament. But it means, above all, recognition at the highest government level of the fact that the arms race cannot be sustained politically, economically or morally, given the abject poverty in which more than 70 per cent of the world's population live.

We are aware that the implementation of the agreement reached this week, as well as that of the START agreement - recently ratified by the three former Soviet Republics which, together with Russia, inherited the nuclear arsenal of the former Soviet Union - is a highly costly undertaking that will have to be carried out over a period of more than 10 years. Hence, even though those weapons are not in a state of alert, they continue to pose a latent threat

(Mr. Hernandez Basave, Mexico)

to the survival of mankind. The instability and uncertainty characteristic of the present political situation in the world is such that we must redouble our efforts in the area of non-proliferation of nuclear weapons in order to prevent the emergence of new nuclear Powers and also to halt any increase in the nuclear power of nuclear-weapon countries, with a view to the total elimination of such weapons.

In this context, we are gravely concerned by the persistent interest in continuing the Strategic Defence Initiative, now possibly in the form of a bilateral programme between the United States and the Russian Federation. We are concerned by the fact that its implementation, apart from causing a possible breach of the ABM Treaty, may lead to the development of new weapons and to their deployment in outer space. Furthermore, the development of space technologies for such a programme could be used by other countries as well, with similar purposes in mind, and bring about the start of a new arms race. In our opinion, with regard to nuclear weapons, countries that want to see a world free from the nuclear threat must preach by example, doing their utmost to eliminate any threat of unnecessary arms build-ups in the world.

At our last session, Ambassador Mayorski, who at the time represented the Soviet Union, said something that we should not lose sight of, that he would be glad if we were to discuss his delegation's proposals in our analysis of this subject, but that he would also be pleased if we were to discuss any constructive proposal presented by other delegations that might lead to a positive dialogue and avoid further political confrontation and pointless

(Mr. Hernandez Basave, Mexico)

rhetoric in the Committee. My delegation fully endorses this opinion, and we therefore call upon all delegations - especially those of the space Powers - to put forward constructive proposals as proof of their flexibility in considering this question. It has been repeatedly pointed out that our priority item was the result of a compromise encompassing all ways and means of maintaining outer space for peaceful purposes. We also share the opinion of delegations such as that of the United States that, through greater international cooperation, we shall succeed in ensuring that outer space is maintained for peaceful purposes. However, we must not in any way overlook the military component of space activities and the danger that weapons may be deployed in outer space, for they are relevant to our mandate in this Committee when we take up this priority item.

(Mr. Hernandez Basave, Mexico)

We do not intend for this forum to embark upon disarmament discussions or negotiations. That is a matter within the competence of the Geneva Conference on Disarmament. What we do wish to propose at this time is that, pursuant to General Assembly resolution 38/80, adopted in 1983, we coordinate our efforts on this priority item with the efforts of the Conference on Disarmament. That is why we reiterate our proposal that we begin, at the earliest possible date, an exchange of information with the Conference on Disarmament and that we jointly analyse ways to support each other in the fulfilment of our respective mandates.

Some thought might also be given to the possibility of reviving the proposal to establish a technical committee whose task would be to study a plan for an inspection system ensuring that the launching of objects into outer space is done solely for scientific and peaceful purposes. This proposal, I understand, was made in 1957 by Canada, the United States, France and the United Kingdom. Those delegations might wish to provide us with more details on that proposal, which we could then consider under this agenda item. Bearing in mind that the current international legal regime for outer space was negotiated in this Committee, we could carry out a study of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies in order to consider the possibility of amending, for example, its Article IV in order to prohibit the deployment of any type of weapon in orbit around the Earth and their Emplacement on celestial bodies or deployment in outer space in any form - and not merely nuclear weapons and weapons of mass destruction, as currently stipulated that Article.

(Mr. Hernandez Basave, Mexico)

There is a growing belief in the United Nations that only through the achievement of consensus in the handling and solution of questions we discuss in this Organization will we succeed in moving ahead towards a better world. My delegation shares that sentiment, and that is why we wish to be flexible and constructive in our proposals. We urge all the other members of the Committee that we combine our efforts in order to reach an agreement, a commitment to take up our priority item. The positive trend towards strengthening the United Nations compels us - I repeat, compels us - to go a bit beyond the mere repetition, in which we have engaged year after year in our final report, of a few lines of consensus on our work on what has been the priority item on our agenda for the past eight years.

The CHAIRMAN: We have thus concluded our debate on agenda item 6.

REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-NINTH SESSION (A/AC.105/513)

IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

The CHAIRMAN: I call on Mr. Adigun Ade Abiodun, United Nations Expert on Space Applications, to report to the Committee on the activities carried out this year under the Programme on Space Applications and on the activities planned for next year.

Mr. ABIODUN (United Nations Expert on Space Applications): Thank you very much, Sir, for giving me this opportunity to address the representatives of this Committee on the activities of the United Nations Programme on Space Applications during the Committee's consideration of its agenda items 7 and 9 at its current session. My statement will focus in part on the activities and direction of the Programme during the period 1991 through 1993. Details of these activities are contained in my current report, document A/AC.105/497, which is now before the Committee.

(Mr. Abiodun, United Nations Expert on Space Applications)

This statement will also address the status of the United Nations participation in International Space Year. I will also use this occasion to brief representatives on the status of the United Nations initiative to establish Centres for Space Science and Technology Education.

As members are all aware, the Programme operates under a number of mandates, and within the framework of its expanded mandate, the Programme on Space Applications carried out a number of activities in 1991 in six major areas. These included development of indigenous capability; long-term fellowships; training courses and workshops; technical advisory services; space information; and the promotion of greater cooperation in space science and technology.

In compliance with General Assembly 45/72, which directed that Centres for Space Science and Technology Education should be established in existing national or regional educational institutions in developing countries, I wish to report that a number of steps were taken in 1991 and 1992 on this subject by the Programme as part of its mandate to promote the development of indigenous capability at the local level. Most of the these steps focused on seeking necessary financial, material and institutional support for the Centres. These steps are outlined in the first part of the progress report on the Centres (A/AC.105/498) which is also before the Committee. Annex III to this report is a recast of the project documents SAP/90/001-004, that is, the rationale for the establishment of the Centres, including their objectives, output, programmes, needed facilities, curriculum and management structure. Since the publication of this progress report, the Government of Greece has informed the United Nations, as it did here this week, that it is interested in and willing to host a Centre for Space Science and Technology

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Education for the benefit of Member States in the Mediterranean and adjacent areas.

The first part of the progress report contains a summary of communications and consultations carried out with Member States. These are contained in paragraphs 5 through 11. Paragraph 12 of this section of the report provides a summary of the commitments of most of the potential host countries to the Centre in their respective regions. All these offers, which are in four categories - personnel, space, equipment, and finance - have been analysed. The financial contributions, which most of the potential host countries have confirmed in writing to the United Nations that they would offer in support of these Centres, range from $60,000 per year to $526,000 per year. A complete list of potential host countries is shown in paragraph 7 of the progress report. Those that have made specific commitments, as indicated above, are reflected in paragraph 12. These include, in Africa: Morocco and Nigeria; in Asia and the Pacific: the Islamic Republic of Iran, Indonesia, Sri Lanka, Thailand, China, India, Malaysia, and Pakistan; in Latin America and the Caribbean: Argentina, Brazil, Chile, and Mexico; and in Western Asia: the United Arab Emirates. Early this week, Kenya formally conveyed to the United Nations its specific commitments in favour of its offer to host the Centre in Africa.*

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*Mr. Hohenfellner (Austria) took the Chair.

(Mr. Abiodun, United Nations Expert on Space Applications)

However, while we happily note that the contributions offered by a number of these countries in support of the Centres in their respective regions have been significant, we also note that none of these offers is sufficient on its own to run the programme of a Centre for Space Science and Technology Education, as proposed by the United Nations. Thus, in order for us to establish and operate the Centres in a viable manner, it will be necessary to seek additional assistance and support either from within or from external sources.

I informed the Committee in June last year that, in order to gain external support, we were actively undertaking the necessary fund-raising campaign amongst potential donor countries and funding agencies. To date, we have approached the Governments of Australia, Canada, Finland, Germany, the Netherlands, Norway, Spain, Sweden and the United States of America, and also the United Nations Development Programme, for support. This process is continuing, and consultations are planned with other countries and agencies; these consultations are to begin with the Government of France following the conclusion of this session of the Committee.

The next step in the process of establishing the Centres is the organization of an evaluation mission, on a regional basis, to each of the potential host countries and their institutions. The purpose of the evaluation missions is to provide accurate and informative reports to assist in the selection of the host country and institutions for each regional centre. The report of the mission should provide clear evidence that the Governments and potential host institutions visited will provide the support necessary for the Centres' successful establishment and sustained operation.

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In February this year, I brought to the attention of the Scientific and Technical Subcommittee the fact that the Government of Spain had informed the United Nations, on 11 December 1991, that it would support, in principle, the establishment of the Centre in Latin America and the Caribbean. This confirmation, and the subsequent offer from the Government of Canada also to participate in the evaluation process, enabled us to organize an evaluation mission to Argentina, Brazil, Chile and Mexico in May this year in order to assess the feasibility of establishing the Centre in the Latin American and Caribbean region. This mission has revealed that there are great expectations in Latin America and the Caribbean as to the educational research and applications opportunities that this centre will provide.

Evaluation missions to other potential host countries in other economic regions will be undertaken expeditiously, and, it is to be hoped, before the end of this year, as soon as the United Nations secures a declaration or commitment of additional support, either from within or from external sources. Accordingly, the United Nations has requested all potential host countries, particularly those in Africa, Asia and the Middle East, to redouble their efforts and to secure support from donor countries and funding agencies, so that the process of conducting the evaluation missions and establishing a Centre in each region can be accelerated.

The United Nations initiative to establish Centres for Space Science and Technology Education has received resounding endorsement from the international community, as they would be an instrument for the successful development of Earth observation programmes and environmental management capabilities; the initiative is also regarded as an indispensable element for ensuring sustainable development, particularly in the developing countries.

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At several forums and conferences organized in association with the recently concluded United Nations Conference on Environment and Development (UNCED), in Rio de Janeiro, the United Nations initiative to establish the Centres for Space Science and Technology Education was enthusiastically welcomed. The Centres were perceived as timely elements that are needed for implementing the recommendations of the Rio de Janeiro Conference. We look forward to working with the Secretariat of UNCED in this regard.

On the long-term fellowship programmes, in 1991, the Programme received 18 long-term fellowship offers; these included offers from the Governments of Austria, Brazil and China, and from the European Space Agency (ESA). These fellowship awards are for studies in microwave technology; remote sensing technology, with emphasis on research, applications and information systems; geodesy, photogrammetry, satellite meteorology, communications systems and space antennae and propagation. Details of these offers are shown in annex II to my current report (A/AC.105/497), as is the identification of the beneficiaries. We are still in consultation with the Russian Federation for a renewal of the fellowships offered by that country.

I am happy to report that these fellowship awards are being renewed by the offering States and by ESA for the period 1992/1993. The United Nations has also advertised these renewed offers, and continues to seek new offers, and ways to increase the number of offers from each donor. In this connection, I am pleased to inform the Committee that the ESA has increased the number of its long-term fellowship offers to five; the fifth fellowship has already been advertised, and will focus on remote-sensing instrumentation. The programme of work for this fellowship will be established for each participant on an individual basis, with due recognition

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being given to participants' experience and future work upon return to his or her home country. The Government of China is also considering adding to its two long-term fellowship awards in remote sensing, photogrammetry and geodesy.

We are at present undertaking a survey of those individuals who have participated in these United Nations long-term fellowship programmes in order to determine what evidence there is, firstly, that the fellowship programme has contributed to enhancing the professional qualifications of fellowship recipients, and, secondly, that the education and training they received have actually been of professional use to them on their return to their home countries. A preliminary evaluation of the responses we have received so far shows that these fellowship programmes have had long-term beneficial effects for the participants and their countries; the beneficiaries are indeed contributing, through their expertise, the the economic development of their countries.

In 1991, three training courses and three workshops were held under the auspices of the Programme; they focused on remote-sensing technology; applications of space techniques in combating natural disasters; the development of practical knowledge and skills in the multidisciplinary use of data sets for environmental studies and resource management; remote-sensing applications in the geological sciences; basic space science; and the use of visible, infrared and radar sensor systems in hydrological and agrometeorological applications. They were sponsored and hosted by, respectively, the Governments of Spain, the People's Republic of China, the United States, Germany, India and Peru. The European Space Agency co-sponsored the activities in Germany, India, Peru and Spain; the World Meteorological Organization (WMO) co-sponsored the course in Peru; and both

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the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) and the Economic and Social Commission for Asia and the Pacific (ESCAP) headquarters co-sponsored the workshop in China. Details of these activities are contained in documents A/AC.105/489, 493, 494, 495, 496 and 499. In addition, the United Nations, in collaboration with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP) and Economic Commission for Africa (ECA) headquarters, in Addis Ababa, co-sponsored a seminar on remote sensing for decision-makers in Nairobi in August 1991.

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The schedule of training courses, workshops and conferences planned for 1992 is shown in paragraphs 28 (a) through (g) of my report. Two of these activities were completed in March and June of this year; they focused on "Space technology for resource development and environment management" and "Remote sensing education for educators". These two activities were funded by the Governments of Japan and Sweden respectively and they constituted United Nations-International Space Year contributions of both Governments; they were held respectively in Quito and in Stockholm and Kiruna. Other activities scheduled for this year, which are being funded by the Governments of the United States, Germany and the Republic of Korea, will address: first, remote sensing applications in resource management and environmental assessment; secondly, geological sciences; and thirdly, communications technology for development. The European Space Agency is also co-sponsoring with the United Nations Office for Outer Space Affairs a course on the use of visible, infrared and radar sensor systems in hydrological and agrometeorological applications and a workshop on basic space science in Costa Rica and Colombia, in cooperation with the Planetary Society. Details of these activities are described in table 1 attached to this statement.

The schedule of training courses, workshops and conferences planned for 1993 is shown in paragraphs 29 (a) through (h) of my report, as well as in table 2 attached to this statement. Among those co-sponsoring and hosting these activities are the Governments of Germany, Greece, Indonesia, Italy, Mexico and Sweden, as well as the ESA and the Economic Commission for Africa.

With reference to the mandatory programme to provide technical advisory services, as an outcome of the Workshop on Space Technology for Resource

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Development and Environment Management organized in Quito in March this year, the United Nations will be working very closely, on request, with the Government of Ecuador in order to:

"promote cooperation between the Government of Ecuador and all the countries that are within the foot-print of the Cotopaxi Ground Station. Such a cooperation, with its financial implications, can be achieved through appropriate consultation with these Governments. The end result of these consultations should witness an agreement with all these countries and ensure a continuous operation of Cotopaxi Station and the acquisition and delivery of data to these countries."

The United Nations is also providing assistance to the Government of Iran to organize a seminar on remote sensing of environment and Earth resources; this seminar will be held in Tehran later this year.

The United Nations is also providing assistance, as has been indicated at this meeting, to the Government of Chile to organize the Second Space Conference of the Americas; this Conference is scheduled to be held in Santiago, Chile, in January 1993.

With regard to space information, plans are in progress to publish two directories which will be updated versions of the "Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications" (A/AC.105/432) and of the directory on "Information Systems on Space Science and Technology" (A//AC.105/397/Rev.1). The third in the series of Selected Papers on Remote Sensing and Satellite Communications, which contains a number of the papers that were presented in the activities of the Programme in 1991, has been published as document A/AC.105/492, which is now before representatives.

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The mandate of the programme to promote greater cooperation in space science and technology is receiving greater attention. Accordingly, the Programme co-sponsored with the IAF and the Government of Canada a workshop on "Space Technologies for Development" from 2 to 5 October 1991. The workshop identified specific space technologies and related applications that could make significant contributions to the priority areas of development in the developing countries at an affordable cost. Twenty-three participants from 16 developing countries took part in this workshop.

As a follow-up to that United Nations/IAF/Canada workshop, the Programme will also co-sponsor in August this year a symposium on "Space Technology in Developing Countries - Making it Happen" with COSPAR and the IAF during their joint August 1992 World Space Congress in Washington, D.C.

The Programme will also co-sponsor with the International Society for Photogrammetry and Remote Sensing (ISPRS), as was reported by Professor Konecny, in August this year a two-day workshop on "Data Analysis Methods and Applications" during the ISPRS 17th Congress in Washington, D.C.

To be able to accomplish all that I have stated so far, we have had to depend not only on the meagre budget of the United Nations but, more important, on the voluntary contributions of many of those represented here. The voluntary contributions received by the United Nations in support of the 1991/1992 activities of its Programme on Space Applications are summarized in paragraph 42 of my current report. These included: the defraying of local costs of long-term fellowships; co-sponsorship of training courses and workshops organized by the Programme; sponsorship of experts to serve as lecturers in the activities of the Programme; and voluntary cash

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contributions. Specifically, support for the activities of the Programme was received from the following Member States and international and regional organizations and entities: Austria, Brazil, Canada, China, France, Germany, Greece, India, Japan, Pakistan, Peru, Spain and the United States of America, the European Space Agency, the Food and Agriculture Organization of the United Nations, the World Meteorological Organization, the Economic and Social Commission for Asia and the Pacific, the United Nations Educational, Scientific and Cultural Organization, the United Nations Disaster Relief Organization and the International Maritime Satellite Organization.

I am happy to report that the Governments of Austria, Greece and Pakistan, as well as the European Space Agency, made voluntary cash contributions in the amount of $9,000, $4,500 of which was for United Nations-International Space Year, $7,000, $12,000 and $75,000 respectively in support of the 1991 activities of the Programme. I am also pleased to report that the Governments of Austria, Greece and Pakistan, as well as the ESA, have respectively made voluntary cash contributions in the amounts of $20,000, $7,000, $15,000 and $50,000 respectively in support of the 1992 activities of the Programme. And, as all representatives are aware, the Government of the People's Republic of China informed the Committee last Tuesday that it was making a voluntary cash contribution of $30,000 in support of the activities of the Programme. I wish to take this opportunity to express the appreciation and gratitude of the United Nations and my personal thanks for that cooperation and genuine support for the Programme.

In the same spirit, I wish to take this opportunity to extend my personal thanks to my own colleagues in the Space Applications Section for their dedication and tireless efforts in support of the activities of the

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Programme. I wish also to express my gratitude to the Chief of the Office for Outer Space Affairs and other colleagues in the Office for their contributions to the achievement of the goals of the Programme.

With reference to the participation of the United Nations in the International Space Year, I am pleased to report that the participation of the United Nations in the International Space Year has been enthusiastically received by the international community. It has also awakened the interest of many in space exploration, in the use of space-acquired data to monitor the global environment and to manage the resources of the Earth, and in the educational initiatives of the United Nations to develop and enhance indigenous capability at the local level. Addenda 6, 7 and 8 to document A/AC.105/445, which are now before the Committee, provide the latest status of United Nations-ISY activities.

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Most of the planned activities in this respect are in differing but progressive stages of implementation. As indicated earlier, the European Space Agency has started distributing space-acquired data to a number of African research and application institutions and centres in four of the countries that are within the coverage of its satellite-data-receiving stations in Maspalomas and Fucino. We have invited and received written contributinos for the planned publication of three booklets: on Mission to Planet Earth, on space education and on universariums. Those contributions are now being edited, and the booklets will be published later this year for general distribution.

The observation of bright artificial space platforms such as the Space Shuttle, the Hubble space telescope and Russia's Mir space station began in January this year, as these space vehicles pass over metropolitan areas. More than 30 planetariums and other educational institutions in 27 countries are now participating in this activity, which can be engaged in without any optical aid. Observing stations are informed in advance of the time and position in the sky where selected manned and unmanned space vehicles can be seen. Observations are now regularly reported from a number of cities; the most active of these include Los Angeles, Madrid and Pamplona in Spain, Tel Aviv, Vienna, Lisbon, Nagoya in Japan, Mexico City, and Genk in Belgium.

Other pending ISY conferences and workshops to be organized this year include the conference sponsored by the United States in Boulder, Colorado, and the United Nations activities being organized during the 17th Congress

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of the ISPRS at Washington, D.C., and during the World Space Conference, also to be held at Washington, D.C. As I stated earlier, those three activities will take place in August this year.

We have received 33 entries, in Arabic, English, French, Spanish and Russian, from 33 countries for the national essay contest. Those essays, which were submitted from every region of the world, have been sent for evaluation to members of the editorial board established for this event. The editors include the President of the European Association of Aerospace Students of Garbsen, Netherlands; the Assistant Editor of Earth Space Review of Paris; a science educator with the National Science Teachers' Association of Maryland, United States; the Director of the Inter-University Consortium for Educational Communication, of New Delhi, India; and the science editor of the Toronto Globe and Mail of Toronto, Canada. Our office too is contributing to the evaluation. We are now summarizing the results of the evaluation in order to be able to decide on the most meritorious essays. In order to strengthen its cooperation in global activities, the United Nations participated, in March and April this year, in the EURISY conference held at Munich, as described in document A/AC.105/445/Add.7, and plans to participate in the fifth meeting of SAFISY, being hosted by the United States in August this year.

I am happy to report that preparations for the planned Home Planet Exhibition, the Global Telecast and Special Video are also far advanced. Since the publication of document A/AC.105/445/Add.6, limited funding has been found for the exhibition, and it is anticipated - I repeat, only anticipated -

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that it will take place in a modified form here at United Nations Headquarters this summer; the exact dates will be announced shortly. The producers of the telecast and the video programmes have informed us that 65 countries have offered to carry the telecast, that 17 of those countries have also offered to contribute to the telecast and video programmes, that the British Broadcasting Corporation (BBC) has agreed to be a co-producer of the event, and that other potential co-producers include the public television system in the United States. If we are able to secure adequate funding, the exhibition, the telecast and the video will come about between this summer and next October. The planned visit to the United Nations of the winners of the essay contest is financially stranded; however, we have not given up, and are continuing to explore potential funding sources.

All the activities proposed for UN-ISY cannot be accommodated in our 1992 work plan. Accordingly, a number of these, as shown in the annex to document A/AC.105/445/Add.6, are scheduled for 1993. These include a regional conference on space technology for sustainable development, which is being hosted by the Government of Indonesia; a conference on environmental and natural resources information and management needs, to be organized in Africa; and a seminar on space communications for development, being hosted by the Government of Greece. Preparatory activities in respect of those conference and the seminar have begun in earnest.

As members are aware, through the Space Agency Forum for the International Space Year, 29 countries and 10 international organizations are channelling their talents and resources to take a new look at our fragile

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planet in order to gain a better understanding of the dynamics within its environment and the risks and changes to which it is exposed. Through Mission to Planet Earth, internationally coordinated space-based programmes chart pollution, deforestation, the greenhouse effect, ozone depletion and other threats to the Earth's environment. According to the Secretary-General of the United Nations Conference on Environment and Development, Mr. Maurice Strong, that Conference was convened to lay the foundation for a global partnership between developing and more industrialized countries, based on mutual needs and common interests, to ensure the future of the planet.

Given those circumstances, it is apparent that one of today's major global needs is that there be an adequate opportunity for the men and women of each and every nation on this planet to experience the joy of successfully exercising their intellect and unleashing their energies for the understanding and management of planet Earth's environment as a whole and for harnessing the natural resources of their own countries. Such an opportunity should provide each nation with the ability to understand, process, analyse and judiciously utilize the copious information being provided daily and on a continuing basis by an array of low-Earth-orbiting and geosynchronous satellites. The planned Centres for Space Science and Technology Education - the initiative of this Committee - should and will provide such an opportunity.

The unflinching institutional, technical and financial support for those Centres by all Member State and funding agencies is not only necessary; such support will also be a credit to and an affirmation of the desire and

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commitment of all to contribute to the development of essential indigenous capability, which is an indispensable requirement for sustainable development at the local level.

Mr. BRAUER (Germany): The German delegation would like to express its appreciation for Mr. Carver's dedicated chairmanship of the Scientific and Technical Subcommittee. Thanks to his leadership important progress has been made, even on very difficult issues.

The Scientific and Technical Subcommittee proved again to be the most important global forum for the discussion of all aspects of the peaceful uses of outer space. Germany is happy to be part of these developments, and places special emphasis on all endeavours towards environmental observation and development. The Committee's work, in this field is regarded very highly. We enjoyed the special meeting to commemorate the International Space Year (ISY) and the fascinating presentations given on that occasion.

(Mr. Brauer, Germany)

Tremendous efforts are being undertaken to make the results of space activities accessible to a global network of users by applying data banks, maps and real-time demonstrations. Germany has supported these endeavours and, encouraged by the good results of the third United Nations Training Course on Remote-Sensing Application to Geological Sciences, held from 7 to 25 October 1991, is organizing a fourth United Nations Training Course to be hosted by the Geo Research Center, Potsdam, and the Free University of Berlin, from 28 September to 16 October 1992.

Again, we hope that this course will provide participants from 20 primarily developing countries with a knowledge of the fundamentals of remote sensing and of the various considerations involved in using imagery obtained by aircraft and by satellites. This course will also demonstrate how to develop and apply techniques for extracting information and for merging disparate data sets that can be used for evaluating geological formations and their selected occurrences.

Space activities have generated global interest and excitement. The benefits for mankind of Earth observation, for instance, cannot be underestimated. Much remains to be done to achieve further improvement.

I should like to join the representative of Canada, who earlier in the session stated that two things must not be done, namely, polluting the spatial environment and threatening the safety of the general public.

As advances are made in the use of outer space, so the problems caused by space debris are exacerbated. In our opinion the Scientific and Technical Subcommittee is the appropriate body for the discussion of outer-space debris. This subject has to be firmly established as an agenda item as soon as possible. The ultimate aim of that discussion ought to be the elaboration

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of an agreement under which the spacefaring nations would endeavour to produce as little additional space debris as technically possible. This is in the interests of all nations and should therefore be politically attainable. We should like to assure the Committee that we will continue to do everything we can to introduce state-of-the-art expertise into future discussions.

The Scientific and Technical Subcomittee has thoroughly discussed the use of nuclear-power sources. Thanks to the dedication of all participants it was possible to cover all the technical aspects of nuclear-power sources. Germany is convinced that the set of principles reflects the current technical status and provides for adjustments to future technical development and progress. We feel that an overwhelming number of nations share this view. We hope to have prepared the technical bases for the final discussions in the Committee.

This session will, it is hoped, represent a big step forwared in the peaceful use of outer space. The German delegation will be happy to comply with any requests for scientific and technical support.

The CHAIRMAN: There are no further speakers on my list for this afternoon's meeting. I would urge delegations wishing to speak on agenda items 7 and 9 to inscribe their names on the list as soon as possible in order to make optimal use of the available conference facilities.

The meeting rose at 4.25 p.m.